



IMPACT OF BREASTFEEDING PRACTICES AWARENESS AND ATTITUDE TOWARDS EXCLUSIVE BREASTFEEDING ON THE PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG NURSING MOTHERS IN URBAN AND RURAL IMMUNIZATION CLINICS IN RIVERS STATE, NIGERIA

**Dr. Callistus Obinna Elegbua¹, Dr. Angela Adaku Elegbua², Dr. Innocent Okafor Eze³,
Dr. Surajdeen Tunde Afolayan⁴**

¹University of Port Harcourt Choba, Rivers State

²Department of Community Medicine and Epidemiology, University of Ilorin Teaching Hospital, Ilorin, Kwara State

³Nigerian Navy Reference Hospital, Calabar, Cross Rivers State

⁴Nigerian Navy Reference Hospital, Calabar, Cross Rivers State

Correspondence: Dr Callistus Obinna Elegbua, University of Port Harcourt East/West Road, PMB 5323 Choba, Rivers State

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ABSTRACT

Background: Breastfeeding is essential for a child's growth and existence. World Health Organization (WHO) recommended six months exclusive breastfeeding (EBF) for infant death reduction. However, poor knowledge and negative attitude towards EBF result in a decline in breastfeeding practice which is common in various underdeveloped nations including Nigeria.

Objective: To compare the impact of knowledge of breastfeeding practices and attitude towards EBF on the prevalence of EBF among nursing mothers attending immunization clinics in rural and urban regions in Rivers State.

Methods: A comparative cross-sectional research with 252 breastfeeding women who attended immunization clinics at the designated health facilities in Obio-Akpor and Emohua LGAs were recruited by systematic sampling. A semi-structured questionnaire was applied for the data collection on socio-demographic factors, knowledge, attitude and breastfeeding practices. The data obtained were analyzed with SPSS version 3.2.2.

Results: The overall knowledge of various breastfeeding practices and overall attitude toward EBF among the urban and rural participants were statistically significant (P -values= 0.003 & 0.044) respectively. The prevalence of EBF among breastfeeding mothers in urban and rural regions were (66.7 & 54.0%) respectively (P -value= 0.039).

Conclusion: The knowledge of breastfeeding practices and overall positive attitude towards EBF and EBF practices are higher in urban than the rural regions of Rivers State.

Recommendations: Breastfeeding practices should be considered as an important aspect of antenatal and postnatal health education. Advocacy on the importance of breastfeeding should be stepped up, especially in rural communities.

KEYWORDS: Breastfeeding, Exclusive breastfeeding, Knowledge, Attitude, Practice, Prevalence, Urban, Rural, Rivers State.

INTRODUCTION

Breastfeeding is fundamental in child subsistence and healthiness through the provision of indispensable nourishment and fortification required for initial growth¹. It offers several advantages for the mother and the newborn. Apart from the point that breastfeeding aids postpartum uterine size reduction and acts as a form of postpartum contraception; it as well plays a significant part in the reappearance of the maternal weight to pre-pregnancy state, breast or ovarian cancer and cardiovascular disease reduction². Breast milk has been



found to provide essential nutritional factors which offer immunity from immediate and long-term illnesses such as obesity, diabetes, asthma and, dermatological diseases in children; it is also regarded as the most cost-effective and simplest intervention to protect the lives of babies at risk of infection³. Breastfeeding during the first few months of life has a significant role in the composition and stability of the gut microbiome that can only be acquired after birth and these bacteria make digestion of solids easier, thus, preventing gut problems and illnesses at a later stage of life⁴. It has been recommended by WHO that mothers should initiate breastfeeding within 1 hour of delivery and breastfeed exclusively for 6 months and continue breastfeeding till 24 months. This nutritional approach can save 800,000 lives of children under five years annually⁵.

WHO defined EBF “as the intake of only breast milk in the first 6 months of life⁶. EBF provides the best easily absorbable nutrients to infants, it gives passive immunity thus serving as the first immunization for the baby, helps in mental development and gives long term protection against non-infectious diseases such as diabetes mellitus and obesity⁷.

Adequate knowledge about breastfeeding practices is said to be the fundamental tool that can direct the course of EBF practice among mothers⁸. A cross-sectional study in Osogbo, Osun State Nigeria indicated that 97.6% of mothers have knowledge of EBF but only 64.6% have adequate knowledge and their higher knowledge about breastfeeding correlated with longer duration of practice⁹.

Positive maternal attitudes toward breastfeeding are associated with the zeal to continue to breastfeed longer and having a greater chance of successful breastfeeding. Besides, mothers with a positive attitude toward breastfeeding were likely to exclusively breastfeed their infants¹⁰.

The huge benefits of breastfeeding especially EBF in the reduction of mortality rates in children in Africa and Nigeria in particular is fact. Irrespective of these benefits, neonatal mortality is still high in African countries particularly in Nigeria. Such death can be avoided through the increase of the awareness of breastfeeding practices and development of positive attitudes towards EBF which will in turn promote the practice of EBF.

Only few studies are available on the impact of knowledge of breastfeeding practices and attitudes towards EBF on prevalence of EBF in Nigeria. Among the available studies, very few were conducted in Rivers State of which all were carried out in the urban health facilities with no consideration to rural dwellers. This represents a knowledge gap which this study aims to provide answers to. In view of the paucity of studies on this topic in Nigeria, there is a need for more research to add to the body of evidence, this will be beneficial in intervention design to promote breastfeeding especially EBF which will in turn reduce infant mortality in Nigeria.

METHODOLOGY

Study Area: The study was conducted in Obio-Akpor and Emohua Local Government Areas (LGAs) which are among the LGAs in Rivers State. Obio-Akpor is in the metropolis of Port Harcourt; one of the major centres of economic activities in Nigeria and one of the major cities of the Niger Delta. It covers 260km² and has a population of 464,789¹¹. It is an oil-producing area and the prevalent occupation of indigenes are fishing, farming and trading. It consists of 17 electoral wards and the headquarters is at Rumuodomaya. Emohua consists of fourteen political wards and its headquarters is in the town of Emohua. It has an area of 831km² and a population of 201,901¹¹. The predominant occupation of indigenes is farming. This study was conducted in four selected (two from each LGA) baby- friendly hospitals that provided primary level of care in the LGAs.

Study Population: The study population were nursing mothers who satisfied the inclusion criteria and attended immunization clinics in the selected health facilities in Obio-Akpor and Emohua LGAs.

Study Design: The study was a comparative cross-sectional study of nursing mothers who satisfied the inclusion criteria and attended immunization clinics in the selected health facilities in Obio-Akpor and Emohua LGAs.

Study Tool: Semi-structured, interviewer-administered questionnaire adapted from WHO.

Sample Size: The sample size was 252 comprising 126 nursing mothers who attended immunization clinic in two primary health facilities in Emohua LGA representing rural health facilities in Rivers State and equal number of nursing mothers who attended immunization clinic in two primary health facilities in Obio-Akpor LGA representing urban health facilities in Rivers State. It was



determined by a cochrane formula for comparison of proportion. Prevalence estimated from urban (50.0%)¹² and rural (68.0%)¹³ studies on breastfeeding. A non-responding rate of 10% was used.

Sampling Techniques: Four primary health facilities (two in Emohua LGA representing rural health facilities and two in Obio-Akpor LGA representing urban health facilities) were selected out of the primary health facilities in these LGAs using simple random sampling technique. Multi-Stage sampling method was used to recruit participants. After obtaining consent, all nursing mothers who attended child welfare clinics of the selected health facilities were screened to determine those who satisfied the inclusion criteria. The first eligible nursing mother who was the starting point of selection was recruited randomly. The sampling fraction was used to recruit other participants until the sample size was complete.

Data Collection: Semi-structured, interviewer-administered questionnaire adapted from WHO was used to obtain information after a signed consent was obtained from the nursing mothers. The data collected were the socio-demographic factors of these nursing mothers and questions on knowledge, attitude and practices pertaining to breastfeeding. The dependent variable was breastfeeding practice while independent variables were socio-demographic factors, knowledge and attitudes that influence breastfeeding practices. The interview was conducted by the researcher and four research assistants. The research assistants were nurses (one from each selected health facility) who were trained on the study protocol (such as the content of the questionnaire and the consent form) for a duration of two days.

Data Analysis: Data were entered, cleaned and analyzed using Epi info statistical package version 3.2.2, CDC, Atlanta Georgia, USA. Data were summarized using proportions for categorical data and mean and standard deviation for continuous data. Comparison of proportion was determined using chi-square. Significant variables (p value < 0.05) at bivariate level were fed into a multivariate model to compute adjusted odd ratio with a 95% confidence interval. Results were presented using tables and figures.

Ethical Consideration: The ethical approval was obtained from the Ethical Review Committee of the University of Port Harcourt. Participation in the study was voluntary. Written informed consent was obtained from each participant after adequate counseling, and data obtained from the study were treated with confidentiality and solely for the study. The benefits of the study (such as education and enlightenment on breastfeeding practices) and the risks (such as encroachment on participant’s time and privacy) were explained to each participant.

Limitations of the Study

1. The study design being a cross-sectional (snapshot) was a limitation. A prospective cohort study which will follow up to observe the long-term benefits of EBF would have been more representative.
2. The findings may not be representative of the situation of breastfeeding practices in the two LGAs since only nursing mothers who attended immunization clinic in the selected health facilities were recruited for the study.

RESULTS

Table 1: Socio-demographic characteristics of the study participants

Variable	Rural n=126(%)	Urban n=126 (%)	Total N=252(%)	χ^2	p-value
Age (years)					
< 20	6 (4.8)	4 (3.2)	10 (4.0)	1.627	0.653
20 – 29	57 (45.2)	61 (48.4)	118 (46.8)		
30 – 39	48 (38.1)	51 (40.5)	99 (39.3)		
≥ 40	15 (11.9)	10 (7.9)	25 (9.9)		
Mean ± SD	30.16 ± 6.33	29.59 ± 6.67		0.698 ^t	0.486
Range	18 – 45	16 – 45			
Marital status					
Married	111 (88.1)	126 (100.0)	237 (94.0)	17.254 ^F	<0.001*
Divorced	3 (2.4)	0 (0.0)	3 (1.2)		
Separated	12 (9.5)	0 (0.0)	12 (4.8)		
Occupation					
Civil servant	34 (27.0)	33 (26.2)	67 (26.6)	13.224	0.010*



Farmer	27 (21.4)	9 (7.1)	36 (14.3)		
Housewife	28 (22.2)	32 (25.4)	60 (23.8)		
Student	0 (0.0)	2 (1.6)	2 (0.8)		
Trader	37 (29.4)	50 (39.7)	87 (34.5)		
Education					
No education	0 (0.0)	4 (3.2)	4 (1.6)	5.176 ^F	0.153
Primary	16 (12.7)	22 (17.5)	38 (15.1)		
Secondary	72 (57.1)	64 (50.8)	136 (54.0)		
Tertiary	38 (30.2)	36 (28.6)	74 (29.4)		
Husband occupation					
Artisan	4 (3.2)	4 (3.2)	8 (3.2)	14.318 ^F	0.007*
Civil servant	39 (31.0)	54 (42.9)	93 (36.9)		
Clergy	4 (3.2)	0 (0.0)	4 (1.6)		
Engineer	0 (0.0)	2 (1.6)	2 (0.8)		
Farmer	28 (22.2)	12 (9.5)	40 (15.9)		
Trader	51 (40.5)	54 (42.9)	105 (41.7)		
Husband education					
No education	3 (2.4)	0 (0.0)	3 (1.2)	5.514 ^F	0.121
Primary	18 (14.3)	16 (12.7)	34 (13.5)		
Secondary	66 (52.4)	57 (45.2)	123 (48.8)		
Tertiary	39 (31.0)	53 (42.1)	92 (36.5)		

χ^2 : Chi square test; F: Fisher's exact test; t: Independent Samples T test; *: *p* value <0.05

A total of 252 respondents were enrolled for the study; comprising 126 nursing mothers from two primary health facilities in Emohua LGA representing rural health facilities in Rivers State and equal number of nursing mothers from two primary health facilities in Obio-Akpor LGA representing urban health facilities in Rivers State.

Maternal age: The highest number of participants in both rural and urban health facilities were within the age range of 20 – 29 years 118 (46.8%) while the lowest number in both facilities were less than 20 years 10 (4.0%). The mean age of participants in the rural health facilities was 30.16±6.33 while that for urban health facilities was 29.59±6.67. The Chi-square value of 0.698 (*P*-value = 0.486) indicated no statistically significant difference in the ages of participants.

Marital status: All the respondents in the urban health facilities were married 126 (100.0%) and 111 (88.1%) rural participants were married. The Chi-square value of 17.254 (*P*-value < 0.001) which was statistically significant.

Occupation: Majority of participants in both rural and urban health facilities were traders, civil servants and house-wives 87 (34.5%), 67 (26.6%) and 60 (23.8%) respectively. This was statistically significant. Chi-square value of 13.224 (*P*-value = 0.010). Out of the 36 (14.3%) participants that were farmers 27 (21.4%) lived in the village while 9 (7.1%) were urban dwellers.

Education: There was no statistically significant difference in the educational levels of the participants in both rural and urban health facilities. However, nursing mothers who attended child welfare clinic in the rural health facilities had higher educational levels compared to their urban counterparts. Among the 74 (29.4%) respondents who had tertiary level of education; 38 (30.2%) were from the rural health facilities while 36 (28.6%) were from the urban health facilities. Furthermore, 72 (57.1%) out of the 136 (54.0%) participants with secondary level of education lived in the village. All the participants from the rural health facilities had formal education while 4 (3.2%) participants from the urban health facilities had no formal education.

Husband occupation: Majority of the participants' husbands in rural and urban areas were traders and civil servants. Of the 252 husbands, 105 (41.7%) were traders and 93 (36.9%) were civil servants. The Chi-square value of 14.318 (*P*= 0.007) which was statistically significant.

Husband education: There was no statistically significant difference in the educational status of the participants' husbands (*P*= 0.121). There were more of the husbands of the respondents with secondary and tertiary educational level in both arm of the study. The



total number of those with secondary level of education were 123 (48.8%) and those with tertiary level of education were 92 (36.5%). The husbands of urban participants had formal education while 3 (2.4%) of the husbands of the rural participants did not attend school.

Table 2: Knowledge of respondents about various breastfeeding practices

Variable	Rural n=126(%)	Urban n=126(%)	Total N=252(%)	χ^2	p-value
Exclusive breastfeeding is important					
Yes	122(96.8)	126(100.0)	248(98.4)	4.065 ^F	0.122
No	4(3.2)	0(0.0)	4(1.6)		
Colostrum nutritionally beneficial to the child					
Yes	118(93.7)	126(100.0)	244(96.8)	8.262 ^F	0.007*
No	8(6.3)	0(0.0)	8(3.2)		
Exclusive breastfeeding improves child's immunity					
Yes	120(95.2)	124(98.4)	244(96.8)	2.066 ^F	0.281
No	6(4.8)	2(1.6)	8(3.2)		
Is it important to initiate breastfeeding within 1hr of birth					
Yes	111(88.1)	117(92.9)	228(90.5)	1.658	0.198
No	15(11.9)	9(7.1)	24(9.5)		
Exclusive breast feeding can prevent diarrhea in child					
Yes	105(83.3)	108(85.7)	213(84.5)	0.273	0.601
No	21(16.7)	18(14.3)	39(15.5)		
Breastfed infants grow faster than formula fed					
Yes	104(82.5)	116(92.1)	220(87.3)	5.155	0.023*
No	22(17.5)	10(7.9)	32(12.7)		
Duration of EBF					
< 6 months	49(38.9)	81(64.3)	130(51.6)	22.073	<0.001*
6 months	58(46.0)	42(33.3)	100(39.7)		
> 6 months	19(15.1)	3(2.4)	22(8.7)		
Breastfeeding should be combined with other feeding options within 6 months					
Yes	46(36.5)	74(59.2)	120(47.8)	12.949	<0.001*
No	80(63.5)	51(40.8)	131(52.2)		

χ^2 : Chi square test; F: Fisher's exact test; *: p value <0.05

There was no statistically significance difference on the knowledge about the importance of exclusive breastfeeding among the participants in the urban and rural primary health facilities. The entire nursing mothers 126 (100.0%) who attended child welfare clinic in the urban health facilities said exclusive breastfeeding was important while 122 (96.8%) of the participants from the rural health facilities agreed that exclusive breastfeeding was important (*P*-value= 0.122). All the participants 126 (100.0%) from the urban health facilities were of the opinion that colostrum was nutritionally beneficial to the children but 118 (93.7%) of their counterparts from the rural health facilities had similar opinion. The Chi-square value was 8.262 and (*P*-value= 0.007) which was statistically significant. Of all the participants from the urban health facilities, 2 (1.6%) of them did not agree that exclusive breastfeeding improves child's immunity while the remaining 124 (98.4%) agreed. Furthermore, as 120 (95.2%) respondents from the rural health facilities believed that child's immunity gets improved by exclusive breastfeeding; 6 (4.8%) participants from the same facilities affirmed negatively. This was not statistically significant (*P*-value= 0.281). One hundred and seventeen (92.9%) nursing mothers from the urban health facilities agreed that initiation of breastfeeding within one hour of birth is important while 111 (88.1%) of participants from the rural health facilities had similar view. However, 9 (7.1%) participants from the urban health facilities and 15 (11.9%) from the rural health facilities disagreed with them. There was no statistically significant difference between the two arms of study with respect to the importance of initiation of breastfeeding within one hour of birth (*P*-value= 0.198).



Knowledge on the prevention of diarrhea disease in children by exclusive breastfeeding did not show any statistically significant difference. Slightly more of the participants 108 (85.7%) from the urban health centers said that exclusive breastfeeding could prevent diarrhea when compared with 105 (83.3%) from the rural health centers with the same view (P -value= 0.601). There was statistically significant difference on the knowledge that breastfed infants grow faster than formula fed. One hundred and sixteen (92.1%) positive responses were obtained from the urban health facilities' participants as opposed to 104 (82.5%) from the rural health facilities' participants (P -value= 0.023). More of the nursing mothers 58 (46.0%) from the rural health facilities were aware that exclusive breastfeeding should be for a period of six months when compared with 42 (33.3%) from the urban facilities and this showed a significant difference statistically, Chi-square value of 22.073 (P -value < 0.001). The knowledge about if breastfeeding should be combined with other feeding options within 6 months of birth showed a statistically significant difference (P -value < 0.001). Eighty (63.5%) respondents from the rural health facilities and 51 (40.8%) from the urban facilities disagreed the addition of other feeding options to breastfeeding within 6 months of birth.

Table 3: Overall knowledge of respondents about various breastfeeding practices

Knowledge of Exclusive breastfeeding	Rural n (%)	Urban n (%)	Total N (%)	χ^2	p -value
Adequate	41 (32.5)	48 (38.1)	89 (35.3)	11.716	0.003*
Moderate	67 (53.2)	75 (59.5)	142 (56.3)		
Poor	18 (14.3)	3 (2.4)	21 (8.3)		

χ^2 : Chi square test; *: p value <0.05

There was statistically significant difference in the overall knowledge of various breastfeeding practices by the participants. Most of the participants 142 (56.3%) had moderate knowledge about various breastfeeding practices. Forty-eight (38.1%) participants from urban health facilities had adequate knowledge of breastfeeding practices while 41 (32.5%) participants from rural health facilities were adequately knowledgeable about various breastfeeding practices. The Chi-square value was 11.716 (P -value= 0.003).

Table 4: Attitude of respondents towards exclusive breastfeeding

Variable	Rural n (%)	Urban n (%)	Total N (%)	χ^2	p -value
Breastfeeding should be on demand					
Agree	66(52.4)	103(81.7)	169(67.1)	26.557	<0.001*
Disagree	39(31.0)	19(15.1)	58(23.0)		
Unsure	21(16.7)	4(3.2)	25(9.9)		
Mother-child bonding increase by breastfeeding					
Agree	108(85.7)	120(95.2)	228(90.5)	8.657 ^F	0.011*
Disagree	6(4.8)	0(0.0)	6(2.4)		
Unsure	12(9.5)	6(4.8)	18(7.1)		
Formula feeding better than breastfeeding					
Agree	13(10.3)	20(15.9)	33(13.1)	8.430	0.015*
Disagree	94(74.6)	100(79.4)	194(77.0)		
Unsure	19(15.1)	6(4.8)	25(9.9)		
Mothers' shape changes with breastfeeding					
Agree	83(65.9)	111(88.1)	194(77.0)	26.900	<0.001*
Disagree	6(4.8)	9(7.1)	15(6.0)		
Unsure	37(29.4)	6(4.8)	43(17.1)		
EBF is time-consuming/more demanding					
Agree	73(57.9)	114(90.5)	187(74.2)	34.975	<0.001*
Disagree	41(32.5)	10(7.9)	51(20.2)		
Unsure	12(9.5)	2(1.6)	14(5.6)		
Breastfeeding should continue till 2 years					
Agree	88(69.8)	48(38.1)	136(54.0)	28.605	<0.001*
Disagree	36(28.6)	64(50.8)	100(39.7)		
Unsure	2(1.6)	14(11.1)	16(6.3)		
Breast milk only is adequate for first 6 months					



Agree	75(59.5)	89(70.6)	164(65.1)	12.897	0.002*
Disagree	49(38.9)	27(21.4)	76(30.2)		
Unsure	2(1.6)	10(7.9)	12(4.8)		
Babies should be given water while being exclusively breastfed					
Agree	39(31.0)	21(16.7)	60(23.8)	14.500 ^F	<0.001*
Disagree	87(69.0)	97(77.0)	184(73.0)		
Unsure	0(0.0)	8(6.3)	8(3.2)		

χ^2 : Chi square test; F: Fisher's exact test; *: *p* value <0.05

One hundred and three (81.7%) nursing mothers from the urban health facilities agreed that breastfeeding should be on demand while 66 (52.4%) from the rural health facilities had similar opinion. This was statistically significant, Chi-square value of 26.557 (*P*-value < 0.001). There was statistically significant difference on whether breastfeeding increase mother-child bonding. Out of the 228 (90.5%) participants that agreed to this statement; 120 (95.2%) were from the urban primary health centers while 108 (85.7%) came from the rural primary health centers (*P*-value= 0.011). One hundred (79.4%) respondents from the urban region and 94 (74.6%) from the rural region disagreed that formula feeding was better than breastfeeding. Thirty-three (13.1%) of participants agreed that formula feeding was better than breastfeeding while the remaining 25 (9.9%) were unsure. This showed statistically significant difference (*P*-value= 0.015). One hundred and eleven (88.1%) urban participants and 83 (65.9%) from the rural area affirmed that breastfeeding changes mothers' shape. Thus, a total of 194 (77.0%) out of the 252 participants agreed that mothers' shape changes with breastfeeding and it was statistically significant (*P*-value < 0.001).

With respect to exclusive breastfeeding being time-consuming/more demanding. A total of 187 (74.2%) participants were of the view that exclusive breastfeeding was time-consuming/more demanding. One hundred and fourteen (90.5%) of those with this view were from urban health facilities and it was statistically significant (*P*-value < 0.001). Regarding the duration of breastfeeding, the number of participants that agreed that breastfeeding should continue for 2 years were more in the rural health facilities 88 (69.8%) while more of those from the urban health centers believed it should not be continued till 2 years 64 (50.8%). The Chi-square was 28.605 (*P*-value < 0.001) which was significant statistically. Seventy-five (59.5%) of nursing mothers who attended child welfare clinic in the rural primary health centers and 89 (70.6%) of those from the urban primary health centers agreed that breast milk only is adequate for the first 6 months of life. This showed a statistically significant difference with (*P*-value= 0.002). Ninety-seven (77.0%) of respondents from the urban centers and 87 (69.0%) of their rural counterparts disagreed that babies should be given water while being exclusively breastfed (*P*-value < 0.001) and it was statistically significant.

Table 5: Overall attitude of respondents towards exclusive breastfeeding

Attitude towards exclusive breastfeeding	Rural n (%)	Urban n (%)	Total N (%)	χ^2	<i>p</i> -value
Positive	93 (73.8)	106 (84.1)	199 (79.0)	4.038	0.044*
Negative	33 (26.2)	20 (15.9)	53 (21.0)		

χ^2 : Chi square test; *: *p* value <0.05

A total of 199 (79.0%) of participants had positive attitude towards exclusive breastfeeding comprising 106 (84.1%) from the urban health centers and 93 (73.8%) from the rural health centers and it was statistically significant (*P*-value= 0.044).

Table 6: Breastfeeding practices of respondents

Variable	Rural n (%)	Urban n (%)	Total N (%)	χ^2	<i>p</i> -value
Your child's first feed					
Breast milk	101(80.2)	108(85.7)	209(82.9)	1.460	0.482
Formula	8(6.3)	5(4.0)	13(5.2)		
Glucose water	17(13.5)	13(10.3)	30(11.9)		
Time of initiation of breastfeeding					
After 24 hours	19(15.1)	7(5.6)	26(10.3)	6.203	0.045*
Within 1 hour	69(54.8)	78(61.9)	147(58.3)		



Within 2-6 hours	38(30.2)	41(32.5)	79(31.3)		
Frequency of breastfeeding					
At random	40(31.7)	49(38.9)	89(35.3)	3.519	0.172
At specific intervals	29(23.0)	18(14.3)	47(18.7)		
On demand	57(45.2)	59(46.8)	116(46.0)		
Breastfed baby exclusively					
Yes	68(54.0)	84(66.7)	152(60.3)	4.244	0.039
No	58(46.0)	42(33.3)	100(39.7)		

χ^2 : Chi square test; F: Fisher's exact test; *: *p* value <0.05

Majority of the participants 209 (82.9%) gave breast milk to their children as their first feed. Urban health facilities respondents slightly out number their rural health facilities' counterparts 108 (85.7%), 101 (80.2%) respectively. Thirty (11.9%) participants fed their babies first with glucose water while 13 (5.2%) gave formula. There was no statistically significant difference in child's first feed options of the participants (*P*-value= 0.482). Time of initiation of breastfeeding was statistically significant. Seventy-eight (61.9%) of urban health centers respondents and 69 (54.8%) from the rural health centers-initiated breastfeeding within 1 hour of birth. The next in rank was the commencement of breastfeeding within 2-6 hours of birth 79 (31.3%). Few participants started breastfeeding after 24 hours of birth 26 (10.3%) and there was statistically significant difference (*P*-value= 0.045). Frequency of breastfeeding did not show any statistically significant difference. More women fed their children on demand. The number of urban respondents were only 2 (1.6%) higher than the rural respondents. The number of participants that breastfed at random were almost twice 89 (35.3%) that of those that breastfed at specific intervals 47 (18.7%). This showed no statistically significant difference (*P*-value= 0.172). There was statistically significant difference in the number of participants who practiced exclusive breastfeeding or not. One hundred and fifty-two (60.3%) participants breastfed exclusively comprising 84 (66.7%) urban participants and 68 (54.0%) rural participants. Those that did not breastfeed exclusively were 100 (39.7%). Chi-square value 4.244 and (*P*-value= 0.039).

DISCUSSION

This study showed that nursing mothers in the urban region of Rivers State had more knowledge of various breastfeeding practices and at the same time exhibited more positive attitudes towards breastfeeding than their counterparts in the rural part of the State. The prevalence of EBF among nursing mothers in the urban and rural regions of Rivers State were 66.7% and 54.0% respectively.

Adequate knowledge about breastfeeding practices is said to be the fundamental tool that can direct the course of EBF practice among mothers⁸. The mothers in the urban region of Rivers State had higher (38.1%) adequate knowledge of the different breastfeeding practices compared to (32.5%) found in their rural counterparts. The knowledge of breastfeeding practices in these regions was reflected in their EBF practice because It was found out that 66.7% of breastfeeding mothers in the urban health facilities in the State breastfed their babies exclusively while the prevalence of EBF in rural health facilities was 54.0%. This could be due to the fact that mothers in the urban area are more likely to be exposed to health information. A cross-sectional study in Osogbo, Osun State Nigeria indicated that 97.6% of mothers had knowledge of EBF but only 64.6% had adequate knowledge and their higher knowledge about breastfeeding correlated with longer duration of practice⁹. Though it showed more adequate knowledge of breastfeeding, it was a community- based study, non-comparative and evaluated only EBF. A study by Gurung et al also agreed that good level of knowledge of EBF among women of reproductive age group corresponds to higher EBF practice¹⁴. However, a Nigeria study by Abdulmaleek et al concluded that irrespective of high level of knowledge on EBF and positive attitude only half of the respondents practiced EBF¹⁵.

More city dwelling nursing mothers (84.1%) in Rivers State had positive attitudes towards EBF as opposed to 73.8% from the local areas of the State who had similar attitudes. It was also found out that the EBF was also higher in nursing mothers in the urban region of the State. This is similar to the study by Dukuzumuremyi et al that concluded that positive maternal attitudes towards breastfeeding are associated with the zeal to continue to breastfeed longer and having a greater chance of successful breastfeeding; in addition, mothers with a positive attitude towards breastfeeding were likely to exclusively breastfeed their infants¹⁰. According to the Food and Agriculture Organization (FAO) guidelines thresholds suggestive of nutrition intervention, an attitude score of $\leq 70\%$ is considered urgent for nutrition intervention. All mothers who scored $> 70\%$ in the attitude test were considered to have a positive attitude and those scoring $\leq 70\%$ were considered to be less positive¹⁶. However, in this index study a positive attitude was a score of 50%.



A survey conducted in Nigeria in 2015 reported EBF rate of 23.7% for the country and 27.2% for South-south region¹⁷. The low prevalence of EBF in this survey could be due to the fact that the advocacy on child's survival strategy such as EBF and the knowledge about EBF were not as elaborate as they are currently.

CONCLUSION: Knowledge of breastfeeding practices, overall positive attitude towards EBF and EBF practice are higher in the urban than the rural regions of Rivers State.

RECOMMENDATIONS

1. Breastfeeding practices should be given a priority during antenatal and postnatal health education.
2. Advocacy on the importance of breastfeeding should be stepped-up especially in the rural communities.

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